

L 17678-63

EWT(m)/HDS AFFTC/ASD

S/0139/63/000/003/0123/0126

52
51

ACCESSION NR: AP3004049

AUTHOR: Berzina, I. G.; Sokolov, L. S.

TITLE: Temperature measurement of a specimen ¹⁹irradiated by a proton beam in air

SOURCE: IVUZ. Fizika, no. 3, 1963, 123-126

TOPIC TAGS: irradiation, bombardment, proton irradiation, proton bombardment, irradiation exposure, irradiation heating effect, bombardment heating effect

ABSTRACT: In a study of the heating which arises as a result of proton irradiation, remote-controlled thermocouples were utilized to measure the temperature dependence of KCl and NaCl monocrystals on exposure time. Specimens with masses from 3 to 40 gr were bombarded with proton fluxes varying from 7×10^{11} to 5×10^{12} protons/cm²/sec. Specimen heating occurred about evenly throughout the volume, including the surface, and the specimen temperature quickly reached saturation and remained constant during the remaining radiation exposure. The saturation temperature was found to depend on the cooling conditions, the size of the specimen, and the proton flux. The graphs obtained make it possible to evaluate the macroscopic temperature of proton-irradiated crystals. Orig. art. has: 4 figures.

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ACCESSION NR: AP3004049

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki, elektroniki i avtomatiki pri Tomskom politekhnicheskom institute imeni S. M. Kirova (Scientific Research Institute of Nuclear Physics, Electronics, and Automation at Tomsk Polytechnic Institute)

SUBMITTED: 14May62

DATE ACQ: 15Aug63

ENCL: 00

SUB CODE: PH, NS

NO REF SOV: 002

OTHER: 003

Card 2/2

L 17163-65 EWT(m)/EPF(c)/EPF(n)-2/EPR/EWP(t)/EWP(b) Pr-4/PS-4/PH-4
SSD(a)/SSD/ASD(m)-3/ASD(a)-5/BSA/AS(mp)-2/AFWL/APGC(b)/ESD(gs) JD/JW/
ACCESSION NR: AP4048421 JG/GG S/0181/64/006/011/3402/3408

AUTHOR: Berzina, I. G.; Blistanov, A. A.; Tsinzerling, L. G. 76

TITLE: Detachment and motion of dislocations in radiation-hardened
lithium fluoride crystals 19

SOURCE: Fizika tverdogo tela, v. 6, no. 11, 1964, 3402-3408

TOPIC TAGS: lithium compound, neutron irradiation, crystal dis-
location, dislocation motion, absorption spectrum, internal friction,
lithium fluoride, radiation hardening, crystal defect

ABSTRACT: To identify the types of defects responsible for radia-
tion hardening of lithium fluoride crystals, the authors examined the
influence of neutron irradiation of LiF single crystals on the
immobilization and mobility of dislocations following irradiation,
when a concentrated load is applied. The single crystals were grown
under factory conditions by the Kriopoulos method, and had an initial
dislocation density of about 10^{14} cm⁻². The samples were in the
form of rectangular bars measuring 10 x 10 x 1 mm for observing
absorption spectra and 20 x 10 x 5 mm bars for the measurement of

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ACCESSION NR: AP4048421

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internal friction. Three samples in each batch were exposed in a reactor to $1.00-1.25 \times 10^{11}$ n/cm² · sec, of which about 10% were fast neutrons and the rest thermal neutrons. All mechanical and optical measurements were made several hours after stopping the irradiation. The mechanical pressure was applied by the diamond pyramid of the PNT-3 instrument under different loads. The dislocation distribution was determined by etching and examination under an MIM-6 microscope. Absorption spectra were taken with the ISP-30 spectrograph and an MF-4 microphotometer. The internal friction was measured by the compound vibrator method at 130 kc. The measurements yielded the variation in the length of the prong of the etch-figure star with the load for different radiation doses. The results indicated that irradiation caused an increased concentration of point defects, chiefly in the vicinity of the dislocations. "The authors thank M. P. Shaskol'skaya for continuous interest in and a discussion of the results, and Abdugani Aliyev of VNIIYaGG, who irradiated the crystals." Orig. art. has: 6 figures and 3 formulas.

ASSOCIATION: Institut stali i splavov, Moscow (Institute of Steel and Alloys)

Card 2/3

L 17163-65

ACCESSION NR: AP4048421

SUBMITTED: 08Jun64

ENCL: 00

SUB CODE: SS

NO REF SOV: 004

OTHER: 012

ATD PRESS: 3150

Card 3/3

ACCESSION NR: AP4024992

S/0070/64/009/002/0260/0264

AUTHORS: Berzina, I. G.; Berman, I. B.

TITLE: Distribution of dislocations in irradiated crystals

SOURCE: Kristallografiya, v. 9, no. 2, 1964, 260-264

TOPIC TAGS: dislocation, dislocation distribution, crystal, irradiated crystal, indenter, etch figure, star etch figure, star ray, proton ray, microhardness, LiF, NaCl, KCl

ABSTRACT: The authors have studied the microhardness and the distribution of dislocations near the indenter prints on etched faces (100) of irradiated crystals of LiF, NaCl, and KCl. Single crystals were employed in the tests, and each was subjected to bombardment by protons having energies of 5 Mev. The average density of rays was $6 \cdot 10^{10}$ protons/cm² sec, with a proton current of about 0.2 microamperes. The authors discovered that the dimensions of diagonal rays from the star etch figures declined steadily with irradiation dose. Etching had no substantial effect on the microhardness. It was found that changes in length of the star

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ACCESSION NR: AP4024992

rays and changes in microhardness of individual crystals correspond to different kinds of defects: length of star rays to point defects and microhardness to more complex defect combinations. Orig. art. has: 5 figures and 1 table.

ASSOCIATION: Tomskiy politekhnicheskii institut (Tomsk Polytechnical Institute)

SUBMITTED: 25Oct62

DATE ACQ: 16Apr64

ENCL: 00

SUB CODE: PH

NO REF SOV: 005

OTHER: 008

Card 2/2

BERZINA, I.G.; BERMAN, I.B.; SAVINTSEV, P.A.

Microhardness of alkali halide crystals. Kristallografiia 9 no 4.
569-571 J1-Ag '64. (MIRA 17:11)

1. Tomskiy politekhnicheskii institut imeni Kirova.

L-13749-65 ENT(m)/EPF(c)/EPF(n)-2/FMA(d)/EMP(t)/EMP(b) Pr-4/Pu-4 IJP(c)/ESD(t)/
SSD/AFWL/ASD(a)-5/AS(mp)-2/AFETR JD/WB/GG
ACCESSION NR: AP4042810 S/0126/64/018/001/0125/0131

AUTHOR: Troitskiy, O. A.; Berzina, I. G.

TITLE: Effect of irradiation on the mechanical properties of single Zn crystals in the presence of surface active hot metals

SOURCE: Fizika metallov i metallovedeniye, v. 18, no. 1, 1964, 125-131

TOPIC TAGS: neutron, proton, electron irradiation, mechanical property, Zn, Hg, surface active medium, anisotropy

ABSTRACT: The authors investigate the combined effect of a surface-active medium such as Hg and irradiation on the mechanical properties of single crystals of Zn. Proton (cyclotron), neutron (nuclear reactor) and electron (accelerator) irradiation were tested. 250 to 300 mm long single crystals were grown on from a 99.99% Zn rod. A 5 mu Hg layer was deposited on the surface of the specimens as a surface-active agent. Proton irradiation (4.5 mev, flow - 0.52×10^{11} , 25-27C), was found to have an anisotropic effect on deformation. The anisotropy was reflected in the ease with which the crystal glides along the cleavage surfaces 0001 under longitudinal irradiation applied to these surfaces. Softening of

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ACCESSION NR: AP4042810

specimens treated in the nuclear reactor for over 10 days at 70 to 75 C was 75 to 80%. Irradiation applied for less than 100 hrs improved mechanical properties at room temperatures. Proton irradiation also lowered mechanical properties when 3% Hg (by weight) was present. The authors conclude that this effect is due to the intensified action of hot metal in the field of irradiation. The contribution of Ye. D. Shchukin is gratefully acknowledged. The orig. art. has: 5 figures.

ASSOCIATION: Institut fizicheskoy khimii AN SSSR (Institute of Physical Chemistry AN SSSR)

SUBMITTED: 10Apr63

ENCL: 00

SUB CODE: MM

NO REF SOV: 011

OTHER: 006

Card 2/2

BERZINA, I.G.; SAVINTSEV, P.A.

Mutual dissolution of the components in contact melting. Izv. vys. ucheb. zav.; fiz. 8 no.1:73-76 '65.

Contact melting of alkali halide salts with high-melting compounds. Ibid.:77-79 (MIRA 18:3)

1. Tomskiy politekhnicheskij institut imeni Kirova.

L 09900-67 EWT(m)/ENP(t)/ETI IJP(c) GG/JW/JD

ACC NR: AP6033564

SOURCE CODE: UR/0181/66/008/010/3019/3021

34

AUTHOR: Berzina, I. G.; Gusev, E. B.; Shaskol'skaya, M. P.

ORG: Moscow Institute of Steel and Alloys (Moskovskiy institut stali i splavov);
All-Union Scientific Research Institute of Nuclear Geophysics and Geochemistry,
Moscow (Vsesoyuznyy nauchno-issledovatel'skiy institut yadernoy geofiziki i
geokhimi)

TITLE: Effect of annealing on the mobility of dislocations in irradiated LiF

SOURCE: Fizika tverdogo tela, v. 8, no. 10, 1966, 3019-3021

TOPIC TAGS: lithium fluoride, annealing, etched crystal, crystal dislocation, ..
crystal lattice dislocation, isothermal annealing, color center, dislocation
mobility, etch figure, etch figure star

ABSTRACT: The effect of various color centers on the dislocation mobility and
the structure of the etch figure star of the lithium fluoride crystal face (100) is
investigated. The restoration of the structure and size of the etch figure star
during the process of isothermal annealing was found to be divided into three
stages, which correspond to the elimination of different types of defects, and

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L 09900-67

ACC NR: AP6033564

0

restoration time was found to depend on the amount of irradiation. [Authors' abstract]

SUB CODE: 20/ SUBM DATE: 13Oct66/ ORIG REF: 003/ OTH REF: 002/

ACC NR: AP7000663

SOURCE CODE: UR/0126/66/022/005/0789/0791

AUTHOR: Berzina, I. G.; Savitskiy, A. P.

ORC: Siberian Physicotechnical Institute im. V. D. Kuzhetsov (Sibirskiy fiziko-
tehnicheskii institut)

TITLE: Redistribution of impurities in metals during irradiation and recovery

SOURCE: Fizika metallov i metallovedeniye, v. 22, no. 5, 1966, 789-791

TOPIC TAGS: metal property, neutron irradiated metal, irradiated metal property,
IRRADIATION EFFECT, METAL MELTING, STEEL IMPURITIES

ABSTRACT: The effect of irradiation on the redistribution of impurities in metals has been evaluated from the rate of contact melting of bismuth-tin, lead-tin, and cadmium-tin pairs subjected to irradiation from an Ra-a-Be source. It was found that irradiation greatly increased the melting rate of irradiated pairs. However, within a few hours, the melting rate dropped sharply below the original value (prior to irradiation) and in 20—80 hr (depending on the metal pair) returned to an original value. Such behavior is assumed to be the result of the combined effect of irradiation-induced defects and impurities accumulated at grain boundaries. Freshly irradiated specimens contain a large quantity of defects which greatly increases the melting rate. Recovery lowers the number of defects and the melting rate. This assumption, however, does not account for the long period of time during which the melting rate remains at values lower than the original values. Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 27Dec65/ ORIG REF: 003/ OTH REF: 002/

Card 1/1

UDC: 669.017.539.16.04

GALSTUKHOVA, N.B.; BERZINA, I.M.; SHCHUKINA, M.N.

Synthesis of thiourea derivatives. Part 2:
4-Alkoxythiocarbanilide-4'-carboxylic acids and their salts.
Zhur.ob.khim. 33 no.7:2317-2321 J1 '63. (MIRA 16:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy
institut.

(Carbanilide)

DUBENKO, R.G.; BERZINA, I.N.; PEL'KIS, P.S.

Substituted phenylhydrazones of nitrobenzaldehyde. Zhur.ob.khim.
32 no.3:942-944 Mr '62. (MIRA 15:3)

1. Institut organicheskoy khimii AN Ukrainskoy SSR.
(Benzaldehyde) (Hydrazones)

DUBENKO, R. G.; BERZINA, I. N.; PEL'KIS, P. S.

Synthesis of some thiodi- and thiotriazoles. Zhur. ob. khim.
33 no.1:274-276 '63. (MIRA 16:1)

1. Institut organicheskoy khimii AN UkrSSR.

(Triazolethiol) (Diazole)

PUPKO, L.S.; BERZINA, I.N.; PEL'KIS, P.S.

Synthesis of substituted nitroformaldehyde phenylhydrazones.
Zhur.ob.khim. 33 no.7:2217-2220 J1 '63. (MIRA 16:8)

1. Institut organicheskoy khimii AN UkrSSR.
(Hydrazones) (Formaldehyde)

LEVCHENKO, Ye.S.; BERZINA, I.N.; KIRSANOV, A.V.

N-arylareneiminosulfonyl chlorides and aryl esters. Zhur. org.
khim. 1 no.7:1251-1255 J1 '65. (MIRA 18:11)

1. Institut organicheskoy khimii AN UkrSSR.

VIKSNE, A.; VIKSNE, J.; DENISOVA, U. [translator]; KASPARSONA, G.
[translator]; LEGZDINA, Zh. [Legzdina, Z.] [translator];
POISHA, Ya. [Poisa, J.] [translator]; TOLSTOPYATOVA, R.
[translator]; ALKSNE, B., red.; BERZINA, K., red.; SILINS, V.,
tekh. red.

[Riga Zoological Garden] Rizhskii zoologicheskii sad. Riga,
Latvijas Valsts izdevnieciba, 1957. 1 v. (chiefly illus).
(MIRA 14:12)

(Riga--Zoological gardens)

1. PUENINA, C., BERZINA, J.
2. USSR (600)
4. Latvia - Oilseed Plants
- 7: Observations on Camelina sativa Crantz as an oilseed plant in the Latvian S.S.R.
Latv PSR Zin Akad Vestis. No. 7 1951.
9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

1. PUTNINA, S., BERZINA, L.
2. USSA (600)
4. Latvia - Squash
7. First chemical data on gymnospermous squash cultivated in the Latvian S.S.R. Latv. PSR Zin Akad Vestis. No. 8 1951.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

1. PUTNINA, G.; BERZINA, L.; ROBEZNIYECE, I.
2. USSR 600
4. Riboflavin
7. Riboflavin in sprouting legume seeds, Latv. PSR Zin. Akad. Vestis, No. 11, 1951.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

BERLINA, L.

Metabolism of vitamin A and Carotene and the influence on it of the protein-vitamin concentrates in patients with destructive tuberculosis of the knee. L. Berzina (Inst. Exptl. Med., Riga, Latvia). *Trudy Inst. Exptl. Med., Akad. Nauk Latv. S.S.R., Voprosy Tuberkuleza* 1, No. 9, 49-60 (1956).—Patients (11) were treated with streptomycin and PAS (*D*-aminosalicylic acid) and with 100 g. of a protein-vitamin concentrate (PVC): PVC contains protein, fat, salt, vitamin B complex, ascorbic acid, and carotene. The blood serum of healthy persons contains about 30% of vitamin A and 100% of carotene. The serum of patients with tuberculous genesis contained 23% of vitamin A and 70% of carotene. The administration of PVC for 3-6 days was followed by a marked increase in the amounts of vitamin A and carotene. To maintain these high levels PVC had to be given continuously. PVC also increased the retention of vitamin A and carotene by the tuberculous patients. The highest content of these products was found in the bones or resected knee joints and the soft tissues around them; 500% in bones and 300% in soft tissues, resp.

L
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A. V. Tuzosulov

MATISONE, Marija; BERZINA, L., red.; PAEGLIS, J., tekhn. red.

[The fishponds of the Latvian S.S.R. and how to increase their
productivity] Latvijas PSR diki un to razibas celsana. Riga, Lat-
vijas PSR Zinatnu akademijas izdevnieciba, 1959. 71 p. [In Latvian]
(MIRA 14:12)

(Latvia--Fishponds)

ZVIEDRIS, Arvid Indrikovich; MATUZANIS, Yanis Kazimirovich; BERZINA, I.,
red.; PILADZE, Z., tekhn. red.

[Forest types in the Latvian S.S.R.] Latvijas PSR meza tipi. Riga,
Latvijas PSR zinatnu Akademijas izdevnieciba, 1960. 90 p.

[In Latvian] (MIRA 14:11)

(Latvia--Forests and forestry)

PUKA, Taras Fridrikhovich; BERZINA, L., red.; PILADZE, Z., tekhn. red.

[Propagation of coniferous ornamental trees] Dekorativo skuju koku
pavairošana. Rīga, Latvijas PSR Zinatnu akadēmijas izdevniecība,
1960. 77 p. [In Latvian] (MIRA 14:12)
(Plants, Ornamental) (Coniferae)

OZOLS, A., akad.; TARANOVA, E., kand. sel'khoz. nauk; PETERSONS, E.,
kand. sel'khoz. nauk; ROZE, K., kand. sel'khoz. nauk; BERZINA, L.,
red.; BONDARE, A., tekhn. red.

[Instructions on hybridization of fruits, berries, vegetables, and
potatoes] Metodiski noradijumi augu hibridizacija auglu koki, ogu
kulturas, darzeni un kartupeli. Riga, Latvijas PSR Zinatnu akademijas
izdevnieciba, 1960. 88 p. [In Latvian] (MIRA 14:12)

1. Latvijas Padomju Socialistiskas Republikas Zinatnu akademijs.
Biologijas instituts. 2. Akademiya nauk Latviyskoy SSR (for Ozols).
(Hybridization, Vegetable)

MATISONE, Marija; BERZINA, L., red.; PILADZE, Z., tekhn. red.

[Assistance for pisciculturists in the determination of the chemical properties of water] Paligs zivkopjiem udens kimisko ipasibu noteiksana. Riga, Latvijas PSR Zinatru akademijas izdevnieciba, 1960.
107 p. [In Latvian] (MIRA 14:12)
(Latvia--Fish culture) (Water--Analysis)

BERZINA, L.A., kandidat meditsinskikh nauk; MAUKERMAN, O.Ye., kandidat meditsinskikh nauk

Significance of penicillin and other factors in the etiology of recurrent scarlet fever. *Pediatrics* 39 no.4:17-22 J1-Ag '56.

(MLRA 9:12)

1. Iz infektsionnogo otdela (zav. - prof. M.Ye.Sukhareva) kafedry pediatrii TSIU (zav. - deystvitel'nyy chlen AMN SSSR prof. G.N. Speranskiy) na base bol'nitsy imeni S.P.Botkina (zav. infektsionnym otdelom A.N.Bushnikov) i epidemiologicheskogo otdela (zav. - prof. Ye.M.Dmitriyeva-Ravikovich) Moskovskogo instituta epidemiologii, miktologii i gigyeny (nauchnyyrukovoditel' - prof. V.A.Chernokhvostov)

(SCARLET FEVER, ther.

penicillin, causing frequent recur.)

(PENICILLIN, ther. use

scarlet fever, causing frequent recur.)

BERZINA, L.A.; MAUERMAN, O.Ye.; OKINSHEVICH, Ye.A.; SHUMOVA, B.I.

Influence of various factors on antitoxic immunity to scarlet fever as shown by the Dick test in children. Vop.okh.mat. i det. 4 no.3:36-41 My-Je '59. (MIRA 12:8)

1. Iz infektsionnogo otdela (zav. - prof.M.Ye.Sukhareva) kafedry pediatrii (zav. - deystvitel'nyy chlen AMN SSSR G.N.Speranskiy) Tsentral'nogo instituta usovershenstvovaniya vrachey, epidemiologicheskogo otdela (zav. - prof.Ye.M.Dmitriyeva-Ravikovich) Moskovskogo nauchno-issledovatel'skogo instituta epidemiologii, mikrobiologii i gigiyeny i sanitarno-epidemiologicheskoy stantsii Kiyevskogo rayona Moskvyy (glavnyy vrach I.F.Krasavin).
(SCARLET FEVER)

MAUERMAN, O.Ye.; BERZINA, L.A.; ZISMANOVA, F.A.

Epidemiological and clinical observations of patients with scarlet fever at home. Zhur.mikrobiol.epid. i immun. 30 no.9:141-144 S '59.
(MIRA 12:12)

1. Iz Moskovskogo instituta epidemiologii, mikrobiologii i gigiyeny; iz kafedry pediatrii TSentral'nogo instituta usovershenstvovaniya vrachey i Sanitarno-epidemiologicheskoy stantsii Leningradskogo rayona Moskvyy.

(SCARLET FEVER statist.)

17(2,6)

SOV/16-59-9-43/47

AUTHOR: Mauerman, O.Ye., Berzina, L.A. and Zismanova, F.A.

TITLE: Epidemiological and Clinical Observations of Scarlet Fever Patients at Home

PERIODICAL: Zhurnal mikrobiologii, epidemiologii i immunobiologii, 1959, Nr 9, pp 141-144 (USSR)

ABSTRACT: In 1956 obligatory hospitalization of scarlet fever patients was repealed in the USSR and from this time patients were committed to hospital when clinical or epidemiological considerations indicated that it was advisable. The aim of subject work was to study what effect this trend might have had on the incidence of scarlet fever among the surrounding children in the family and apartment, and what was the course of the disease in the patients treated at home. It was found that the contraction of scarlet fever from patients who remained at home was 2 1/2 times more common among the patient's family than among the other families in the same apartment. The smaller the living area, the higher was the rate of contraction of the disease and the greater the chance of complications developing in the patient. When the

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SOV/16-59-9-43/47

Epidemiological and Clinical Observations of Scarlet Fever Patients at Home

patients were left at home, complications were 1 1/2 times rarer than with hospitalized patients, this mainly in patients suffering from chronic concomitant diseases. Antibiotic therapy of home patients was not effective enough in preventing complications. The general results suggest that most scarlet fever patients can safely be left at home for treatment. Further data on the home treatment of scarlet fever patients can be obtained by reference to I.T. Tishchenko, D.O. Primak, N.I. Lebedev and L.A. Popova.

There are 2 tables and 6 Soviet references.

Card 2/3

SOV/16-59-9-43/47

Epidemiological and Clinical Observations of Scarlet Fever Patients at Home

ASSOCIATION: Moskovskiy institut epidemiologii, mikrobiologii i gigiyeny (Institute of Epidemiology, Microbiology and Hygiene, Moscow); Kafedra pediatrii Tsentral'nogo instituta usovershenstvovaniya vrachey (Department of Pediatrics of the Central Institute Post-graduate Medical Institute); Sanitarno-epidemiologicheskaya stantsiya Leningradskogo rayona Moskvyy (Sanitary-epidemiological Station of the Leningrad District of Moscow).

SUBMITTED: January 7, 1959

Card 3/3

BERZINA, L.A.; VINTOVKINA, I.S.; RABINOVICH, D.Ya.

Gastrointestinal disorders in influenza in children. *Pediatrics*
39 no.4:48-53 Ap '61. (MIRA 1484)

1. Iz infektsionnogo otdela (zav. - prof. M.Ye. Sukhareva) kafedry
pediatrii (zav. - deystvitel'nyy chlen AMN SSSR G.N. Speranskiy)
TSentral'nogo instituta usovershenstvovaniya vrachey, infektsionno-
go otdela (zav. - prof. S.D. Nosov) Instituta pediatrii AMN SSSR
i 2-y Moskovskoy gorodskoy klinicheskoy detskoy bol'nitsy imeni
A.V. Rusakova (glavnyy vrach - zasluzhennyy vrach RSFSR B.A.
Kruzhkov).

(INFLUENZA)

(ALIMENTARY CANAL--DISEASES)

SUKHAREVA, M.Ye.; ZAKSTEL'SKAYA, L.Ya.; BERZINA, L.A.; LINYAYEVA, Ye.A.;
TRIVUS, N.L.; TSI TYAN'-MAO [Chi'i T'ien-mao]

Effect of respiratory virus infections on the course of gastrointestinal
diseases in children. Vop. okh. mat. i det. 8 no.7:3-7 J1 '63.
(MIRA 17:2)

1. Iz infektsionnogo otdela kafedry pediatrii TSentral'nogo instituta
usovershenstvovaniya vrachey i Instituta virusologii AMN imeni D.I.
Ivanovskogo (direktor - deystvitel'nyy chlen AMN prof. V.M. Zhdanov)
na baze Detskoy klinicheskoy bol'nitsy imeni I.V. Rusakova (glavnyy
vrach M.M. Kraseva).

BERZINA, L.K.

Results of a study of the ground water cycle on the basis of station
observations. Vestsi AN BSSR. Ser.fiz.-tekh.nav. no.3:107-114 '60.
(MIRA 13:9)

(Water, Underground)

BERZINA, L.K.

Determining the width of the zone of influence of river flood waters
on underground waters. Dokl. AN BSSR 5 no. 1:21-24 Ja '61.

(MIRA 14:2)

1. Institut geologicheskikh nauk AN BSSR. Predstavleno akademikom
AN BSSR K.I. Lukashevym.

(Floods)

(Water, Underground)

BERZINA, L.K.

Underground waters below the Devonian salt deposits of the Pripet Depression. Dokl. AN BSSR 6 no. 109-112 F '62. (MIRA 15:2)

1. Institut geologicheskikh nauk AN BSSR. Predstavleno akademikom AN BSSR G.V. Bogomolovym.

(Pripet Valley--Water, Underground)
(Petroleum geology)

SEMENOV, A.I., otv.red.; FILIPPOV, Yu.V., prof., doktor tekhn.nauk, red.;
BASHLAVIN, V.A., kand.tekhn.nauk, red.; VOYNOVA, V.V., red.; GURARI,
Ye.L., kand.ekonon.nauk, red.; GUREVICH, I.V., red.; ZHIV, I.S., red.;
ZARUTSKAYA, I.P., red.; ZASLAVSKIY, I.I., red.; KOZLOV, F.M., red.;
NIKISHOV, M.I., kand.geograf.nauk, red.; SADCHIKOV, S.F., red.;
TIKHOMIROV, D.I., red.; TUTOCHKINA, V.A., red.; BALANTSEVA, I.A., red.
kart; BOGDANOVA, L.A., red.kart; BOCHAROVA, I.L., red.kart; VENEVTSEVA,
G.P., red.kart; VOLKOVA, A.P., red.kart; GOSTEVA, N.A., red.kart;
YEFIMOVA, G.N., red.kart; ZHIV, D.I., red.kart; KRAVCHENKO, A.V., red.
kart; KUBRIKOVA, N.S., red.kart; KUZNETSOVA, N.A., red.kart; KURSAKOVA,
I.V., red.kart; LOBZOVA, N.A., red.kart; MERTSALOVA, L.M., red.kart;
MOSTMAN, S.L., red.kart; PANFILOVA, M.V., red.kart; SEMENOVA, V.D.,
red.kart; SMIRNOVA, T.N., red.kart; TERESHKOVA, V.S., red.kart;
FEDOROVSKAYA, G.P., red.kart; FETISOVA, N.P., red.kart; FIL'GUS, Z.Kh.,
red.kart; SHAPIRO, Ye.M., red.kart; SHISHKIN, Ye.A., red.kart; YASHU-
NICHKINA, Ye.G., red.kart. V razrabotke kart prinimali uchastiye:
ALISOV, B.A., prof.; ~~BERZINA, M.Ye.~~; VASILEVSKIY, L.I.; GAVRILOVA,
S.A., kand.geograf.nauk; GINZBURG, G.A., kand.tekhn.nauk; DOBOSHINSKAYA,
I.B.; YEVSTIGNEYEVA, A.I.; LAVRENKO, Ye.M., prof.; LOZINOVA, V.M., kand.
tekhn.nauk; MILANOVSKIY, Ye.Ye., kand.geologo-mineral.nauk; MIKHAYLOV,
A.A., prof.; MYSHKIN, Ye.P.; PUZANOVA, V.F., kand.geograf.nauk;
(Continued on next card)

SEMENOV, A.I.----(continued) Card 2.

ROZOV, N.N., prof.; SMIRNOV, D.I.; TARASOV, A.P.; TROFIMOVSKAYA, Ye.A., kand.geograf.nauk; TUGOLESOV, D.A., kand.geologo-mineral.nauk. ZININ, I.F., tekhn.red.

[Geographical atlas for secondary school teachers] Geograficheskii atlas; dlia uchitelei srednei shkoly. Izd.2. Moskva, Glav.upr. geodezii i kartografii MVD SSSR, 1959. 191 p. (MIRA 12:11)

1. Predstavitel' Nauchno-issledovatel'skogo instituta metodov obucheniya Akademii pedagogicheskikh nauk RSFSR (for Zaslavskiy).
2. Predstavitel' Upravleniya shkol Ministerstva prosvyashcheniya RSFSR (for Tutochkina).
3. Chleny-korrespondenty AN SSSR (for Lavrenko, Mikhaylov).

(Maps)

ZAKSTEL'SKAYA, L.Ya.; SUKHAREVA, M.Ye.; TSI TYAN'-MAO [Ch'i T'ien-mao];
BERZINA, L.P.; LINYAYEVA, Ye.A.; LUTSEVICH, I.A.

Acute respiratory diseases in hospitals for children with
gastrointestinal disorders. Sov. med. 27 no.12:25-29 O '64.
(MIRA 18:11)

1. Institut virusologii (dir.- deystvitel'nyy chlen AMN SSSR
prof. V.M. Zhdanov) i Tsentral'nyy institut usovershenstvovaniya
vrachey (rekfor - M.D. Kovrigina).

12:11-14 D '57
ROYTER, I.M.; BERZINA, N.I.; BASHIROVA, R.S.

Use of table salt in the preparation of liquid yeast. Khleb. i kond.
prom. 1 no.12:11-14 D '57. (MIRA 11:1)

1. Kiyevskiy tekhnologicheskiy institut pishchevoy promyshlennosti
imeni A.I. Mikoyana.

(Yeast) (Baking)

ROYTER, I.M.; BERZINA, N.I.; BASHIROVA, R.S.; v proizvodstvennykh
ispytaniyakh uchastvovali: KOVALENKO, A.Ya., assistant; MEDOVAYA,
E.I., mikrobiolog

Effect of table salt in the preparation of liquid yeasts.
Trudy KTIPP no.17:57-68 '57. (MIRA 13:1)

1. Kiyevskiy khlebozavod No.5 (for Medovaya).
(Yeast) (Baking)

BERZINA, N.I.; ROTTER, I.M.

Effect of table salt concentration in the substance on the
fermentation activity of yeast. Izv.vys.ucheb.zav.; pishch.tekh.
no.5:51-56 '59. (MIRA 13:4)

1. Kiyevskiy tekhnologicheskiy institut pishchevoy promyshlennosti,
kafedra khlebopekarnogo proizvodstva.
(Yeast)

ROYTER, I.M.; DERZINA, N.I.; KOVALENKO, A.Ye.

Changes in gluten during the preparation of wheat dough. Izv.
vys.ucheb.zav.; pishch.tekh. no.6:55-60 '59.
(MIRA 13:5)

1. Kiyevskiy tekhnologicheskii institut pishchevoy promyshlennosti.
Kafedra khlebopekarnogo proizvodstva.
(Dough--Analysis) (Gluten)

ROYTER, I.M.; BERZINA, N.I.; BASHIROVA, R.S.; REN'KAS, N.M.

Changes in the properties of liquid yeasts during their prolonged
cultivation in the presence of sodium chloride. Trudy KTIPP no.21:
91-98 '59. (MIRA 14:1)

(Yeast)

ROYTER, I.M.; KOVALENKO, A.Ya.; BERZINA, N.I.; REN'KAS, N.M.

Investigation of the method for preparing the wheat dough
on liquid leavens. Izv. vys. ucheb. zav.; pishch. tekhn.
no.2:27-34 '60. (MIRA 14:7)

1. Kiyevskiy tekhnologicheskiy institut pishchevoy promyshlennosti,
kafedra khlebopekarnogo proizvodstva.

(Dough)

(Yeast)

ROYTER, I.M.; BERZINA, N.I.; KOVALENKO, A.Ya.; REN'KAS, N.M.

Investigation of the method of preparing wheat dough with
leaven containing table salt. Izv. vys. ucheb. zav.; pishch.
tekh. no.3:56-61 '60. (MIRA 14:8)

1. Kiyevskiy tekhnologicheskii institut pishchevoy promysh-
lennosti, Kafedra khlebopekarnogo proizvodstva.
(Dough)

BERZINA, N.I.; ROYTER, I.M.

Effect of sodium chloride on the physical properties of gluten and
dough from wheat flour. Trudy KTIPP no.22:76-83 '60. (MIRA 14:3)
(Dough) (Gluten) (Salt)

NOVALENKO, A.Ya.; BERZINA, N.I.; ROYTER, I.M.

Effect of rye flour used in the preparation of liquid yeasts
on the quality of wheat bread. Trudy KTIPP no.22:84-90 '60.
(MIRA 14:3)

(Bread) (Yeast) (Rye)

ROYTER, I.M.; BERZINA, N.I.; BASHIROVA, R.S.; REN'KAS, N.M.

Comparative activity of the yeast strains "Krasnodarskaya"
and "Krasnodarskaya salty yeast" used in the production of liquid
yeasts. Mikrobiologiya 29 no. 4:595-599 J1-Ag '60.

(MIRA 13:10)

1. Kiyevskiy tekhnologicheskii institut pishchevoy promyshlennosti.
(YEAST)

ROYTER, I.M.; KOVALENKO, A.Ya.; BERZINA, N.I.; GITERMAN, F.L.

Investigating the technology of preparing dough containing the
scalded flour leavened with thermophile lactic acid bacteria.
Izv.vys.ucheb.zav.; pishch. tekhn. no.6:58-65 '61. (MIRA 15:2)

1. Kiyevskiy tekhnologicheskii institut pishchevoy promyshlennosti,
kafedra khlebopekarnogo proizvodstva.
(Dough) (Lactic acid bacteria)

BERZINA, N.I.; KOVALENKO, A.Ya.; ROYTER, I.M.

Biochemical changes of the protein-proteinase complex in wheat
sponge and dough. *Izv.vys.ucheb.zav.; pishch.tekh.* 2:49-54
'62. (MIRA 15:5)

1. Kiyevskiy tekhnologicheskij institut pishchevoy promyshlennosti,
kafedra khlebopekarnogo proizvodstva.
(Proteins) (Dough)

ROYTER, I.M.; BERZINA, N.I.

Effect of sodium chloride on the activity of wheat amylases.
Izv. vys. ucheb. zav.; pishch. tekhn. no.4:42-46 '63.

Investigating salt concentration in the liquid phase of
wheat dough. 47-52 . (MIRA 16:11)

1. Kiyevskiy tekhnologicheskii institut pishchevoy
promyshlennosti, kafedra khlebopekarnogo proizvodstva.

ROYTER, I.M.; BERZINA, N.I.

Effect of sodium chloride on the activity of wheat proteases
in water-flour suspensions. Izv. vys. ucheb. zav.; pishch.
tekh. no.6:40-45 '63. (MIRA 17:3)

1. Kiyevskiy tekhnologicheskii institut pishchevoy promysh-
lennosti, kafedra khlebopekarnogo proizvodstva.

BASHIROVA, R.S.; BERZINA, N.I.; ROYTFER, I.M.

Some data on the zymase and maltase activity in baker's
yeasts. Trudy KTIPP no.27:20-23 '63. (MIRA 17:5)

BOYTER, J.M.; KOVALENKO, A.Ya.; BERZINA, N.I.; REN'KAS, N.M.

Preparation of sour dough, leaven and liquid yeast in case
of long breaks in work. Trudy KTIPP no.27:23-31 '63.
(MIRA 17:5)

ROYTER, I.M., kand. tekhn. nauk; REN'KAS, N.M., inzh.; BERZINA, N.I.,
kand. tekhn. nauk; KOVALENKO, A.Ya., inzh.

Fermentation activity and propagation of yeast during dough
preparation from wheat flour. Pishch. prom. no.2:69-76 '65.
(MIRA 18:11)

1. Kiyevskiy tekhnologicheskij institut pishchevoy promyshlen-
nosti.

BERZINA V.K.

Alkylation of bisphenols in the presence of phosphoric acid

Journal of Applied Chemistry, 1964, 36, 2800

Alkylation of bisphenols in the presence of phosphoric acid... reaction mechanism appears to be that of formation of ROPOH₂, which cleaves into H₂PO₄ and olefin at a sufficiently high temp. and the olefin is the alkylating agent for Ph₂. With... products contain Me₂C and Me₂CH groups and a isomerization. Tertiary... require... Alkyl... products... unknown... p-Me₂C₆H₄Ph₂... Et₂CHOH gave the same product... p-Cl₂...

... treatment with... gave... products...

... treatment with... gave... products... some... with polymer... presented in the... the appearance...

Handwritten initials or signature.

ROMADAN, I.A.; BERZINA, V.K.

Alkylation of diphenyl with alcohols in presence of phosphoric acid.
Zhur.ob.khim. 25 no.2:282-286 F '55. (MLRA 8:6)

1. Latvyskiy Gosudarstvennyy universitet.
(Alkylation) (Biphenyl)

L 45171-66 EWT(1)/EWP(e)/EWT(m)/EEC(k)-2/T/EWP(k) IJP(c) WG/WH
ACC NR: AP6027896 SOURCE CODE: UR/0368/66/005/001/0031/0035

AUTHOR: Berzing, E. G.; Naboykin, Yu. V.

49
B

ORG: none

TITLE: The effect of the parameters of the absorbing medium on the Q-switching of a laser resonator

SOURCE: Zhurnal prikladnoy spektroskopii, v. 5, no. 1, 1966, 31-35

TOPIC TAGS: ruby laser, cadmium selenide, organic dye, polymer film, glass, Q switch

ABSTRACT: Q-switching of a ruby laser was investigated experimentally to verify certain concepts advanced theoretically elsewhere (A. M. Ratner, Sb. "Kvantovaya elektronika." Kiev, 1966, p. 166). The Q-switching materials used experimentally included cadmium selenide glasses, certain organic dye solutions, and dyed polymer films. A 6-j laser with a 12-cm ruby rod was used. The cavity consisted of external multilayer plane mirrors coated with lead oxide and cryolite. The absorbing medium was introduced into the cavity between one of the mirrors and the ruby. A reduction in the duration of laser spikes and a sharp decrease in their repetition frequency was observed in all three types of materials studied. However, reliable results with a high reproducibility were obtained only for liquids and glasses. The Cd-Se glasses functioned as Q-switches in the $-40 < t < 50$ C temperature range and the generation consisted of individual, infrequent or single pulses with increased (10-fold) amplitude.

Card 1/2

UDC: 535.89

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ACC NR: AP6027896

depending on the thickness of the switching material. It was concluded that by varying the optic parameters of the absorbing media it is possible to control their capacity as a laser Q-switch. Many absorbing media are expected to acquire this capacity when cooled to low temperatures. It is probable that these materials have a long-lived metastable level. Orig. art. has: 3 figures. [26]

SUB CODE: 20/ SUBM DATE: 26Jun65/ ORIG REF: 006/ OTH REF: 005/ ATD PRESS:
5081

Card

2/2

L 04565-67 EWI(1)/EWT(m)/EWE(e)/EEG(e)-2/T/EWP(t)/EEL/EWPK(e)
ACC NR: AP6032449 GG/WH SOURCE CODE: UR/0368/66/005/003/0387/0388

AUTHOR: Berzing, E. G.; Kramarenko, N. L.; Naboykin, Yu. V.

ORG: none

TITLE: Multilayer dielectric mirrors for lasers, based on lead oxide and cryolite

SOURCE: Zhurnal prikladnoy spektroskopii, v. 5, no. 3, 1966, 387-388

TOPIC TAGS: laser optics, resonator, ~~mirror~~, dielectric mirror, lead oxide, cryolite,
dielectric material

ABSTRACT: This is a continuation of earlier work (PTE, no. 2, 189, 1965), where it is indicated that dielectric mirrors made with lead oxide as a base offer certain advantages over the customarily used mirrors with ZnS, because the vacuum need not be so high and the lead oxide evaporates at a lower temperature. The authors report that they produced a large number of mirrors based on lead oxide and cryolite for different spectral regions and with different numbers of layers, and found their reflection coefficients to be higher than those with ZnS. Prolonged tests with ruby and neodymium-glass lasers have shown such mirrors to be suitable in lasers with low output energy (on the order of 10 J). The strength of 13-layer mirrors was tested by a procedure similar to that described by A. M. Bonch-Bruyevich et al. (ZhPS v. 1, 265, 1964). The tests show that the glass substrate can withstand an energy density up to 300 J/cm², and that the strength is strongly influenced by the cleanliness of the glass prior to deposition of the dielectric layers. It is concluded that once a suitable coating technology is developed, the lead-oxide mirrors will prove to be just as strong as

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UDC: 535.31

L 04565-67

ACC NR: AP6032449

those using ZnS, and the ease of their manufacture and higher reflection coefficient will then make their use in lasers preferable. Orig. art. has: 1 table.

SUB CODE: 20/ SUBM DATE: 05Jul65/ ORIG REF: 003/ OTH REF: 002 / ATD PRESS: 5100

Card 2/2 vmb

ACC NR: AP6G36818

SOURCE CODE: UR/0368/66/005/005/0692/0693.

AUTHOR: Bersing, E. G.; Naboykin, Yu. V.

ORG: none

TITLE: Liquid metal reflectors for lasers

SOURCE: Zhurnal prikladnoy spektroskopii, v. 5, no. 5, 1966, 692-693

TOPIC TAGS: laser, laser optic material, ruby laser

ABSTRACT: An investigation is made of the possibility of using liquid metal mirrors as laser reflectors. Mercury mirrors, which are self-restorable after damage, are the most suitable from the standpoint of production and exploitation. Such mirrors can be of the open-surface... type or can be housed in a special vessel. Both types were investigated and provided positive results. Fig. 1. is an optical diagram of a laser resonator using an open-surface type mercury mirror as one of the reflectors. In the experiments, the second reflector was usually a mirror with a multilayer dielectric coating based on lead oxide and cryolite, although another open-surface mercury mirror can be used. The use of one open-surface mercury mirror in the resonator resulted in an increase of the threshold value of pumping energy by 1.1 times. No decrease in yield energy was observed. When two such mirrors were

Card 1/3

UDC: 535.89

ACC NR: AP6036818

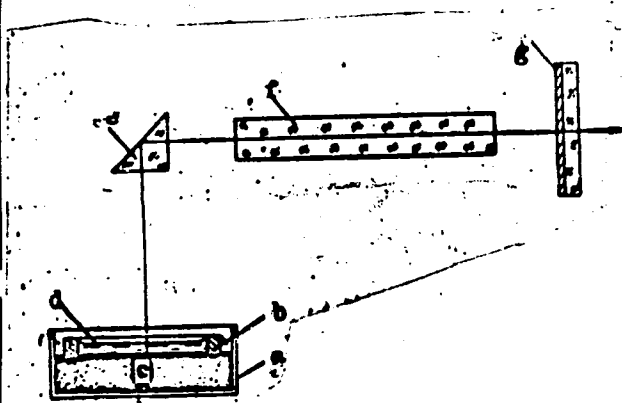


Fig. 1. Optical diagram of a resonator with a mercury reflector
a - Vessel; b - metallic ring;
c - mercury; d - water; e - prism of total internal reflection;
f - ruby; g - multilayer dielectric mirror.

used, giant pulses were obtained and the threshold value of pumping energy increased slightly. The duration and form of the pulses did not differ from those which were obtained when a multilayer mirror was used as the second reflector. Thus, in spite of their small coefficient of reflection and high absorption, liquid mercury mirrors can be used as laser reflectors. Alkali metals whose coefficient of reflection

Cont 2/3

ACC NR: AP6036818

in the optical range is ~100%, can also be used. Liquid metal reflectors are especially suitable for obtaining mega- and gigawatt pulses. Such reflectors will be valuable for laboratory studies of the effect of laser radiation on exposed surfaces. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 26Jul65/ ORIG REF: 001/ ATD PRESS: 5107

Card 3/3

BERZINS, E.; DZEMBEKS, V.; BRINKMANIS, O.; EMERSONS, J.;
OZOLS, J.; SPRIVULIS, Z., red.

[Regulation and maintenance of agricultural machinery]
Lauksaimniecibas mashinu regulesana un kopsana. Riga,
Latvijas Valsts izd-ba, 1964. 429 p. [In Latvian]
(MIRA 18:1)

KALNIN'SH, A.I. [Kalnins, A.]; DARZIN'SH, T.A. [Darzins, T.];
BERZIN'SH, G.V. [Berzins, G.]

Plasticization of wood by preliminary treatment with
ammonia. Der. prom. 13 no.5:11-13 My '64.

(MIRA 17:6)

BERZINS, G.; ZELTIN, I.; LIEPINS, J., red.

[Wood plastics] Koksnes plastikas. Riga, Latvijas Valsts
izdeviba, 1964. 56 p. [In Latvian] (MIRA 18:1)

BERZINS, I.; VILDE, A.; CIBLIS, E.; FICA, A., red.

[Overall mechanization in cultivating corn] Kukuruzas
audzesanas darbu kompleksa mehanizacija. 2. parstra-
dats un papildinats izdevums. Riga, Latvijas Valsts
izd-ba, 1964. 169 p. [In Latvian] (MIRA 18:1)

BERZINS, J ; IACIS, A. ; TAUCINS, E.

Use of newlick mineral mixtures for feeding sheep. p. 181.

БИОЛОГИЧЕСКАЯ НАУКА; СЕЛСКОМУ И ЛЕСНОМУ ХОЗЯЙСТВУ. (Latvijas PSR
Zinatnu akademijs. Biologijas Zinatnu nodaļa) Riga, Latvia, No. 3, 1957.

Monthly list of East European Accessions (EMAI), IC, Vol. 8, No. 8,
August 1959.
Unsla.

BERZINS, J.

New method in raising Latvian brown cattle. In Russian. p. 143.

LATVIJAS PSR ZINATNU AKADEMIJA. VESTIS. RIGA, LATVIA. No. 7, 1959

Monthly List of East European Accessions. (EEAI) LC, Vol. 9, no. 2,
Feb. 1960 Uncl.

1. BERZINS, M.
2. USSR (600)
4. Animal Industry
7. Measures developed by the Institute of Animal Husbandry and Veterinary Hygiene of the Academy of Sciences of the Latvian S. S. R. for use in production. Latv. PSR Zin.Akad.Vestis no. 12 1950
9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unclassified.

1. BERZINS, M.
2. USSR (600)
4. Collective Farms
7. Scientific technical conference on the "Kopdarbiba" collective farm.
Latv. PSR Zin. Akad. Vestis 5, 1951

9. Monthly List of Russian Accessions, Library of Congress, January 1953, Unclassified.

BERZIN'SH M.M.

"The Organization of a Fodder Base on the Kolkhozes of the Latvian SSR." Cand Agr Sci, Latvian Agricultural Academy Min Higher Education USSR, Riga, 1955. (KL, No 12, Mar 55)

SO: Sum No. 670, 29 Sep 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

SEDMALIS, U.; ~~BERZINS, R.~~; SKLENNIKS, C., red.; PILADZE, Z.,
tekhn. red.

[Structure and use of glass] Stikla uzbūve un pielietosana.
Rīga, Latvijas PSR Zinatnu Akad. izdevniecība, 1962. 31 p.
(MIRA 16:5)

(Glass)

ALKSNE, Valentin; BEZINS, Rolands; VILFISONE, Ya., red.

[Glass plastics, material of the future] Stikla
plasti nakoņnes materials. Riga, Latvijas Valsts
izd-iba, 1964. 73 p. [In Latvian] (MIRA 18:1)

BERZINS, T.

Preparation of flour from clover hay for feeding swine.

P. 19 (PADOŠU LAIPIĀS KOLCHOZNIKS) Riga, Latvia Vol. 9, No. 6, June 1957

SO: Monthly Index of East European Accessions (AMEI) Vol. 6, No. 11 November 1957.

PENCIKS, A.; ENINA, G.; BERZINS, V.; ENDZELINA, M., red.; ENGERE, I.,
tekh. red.

[Nervous diseases]Nervu slimibas. Riga, Latvijas Valsts iz-
devnieciba, 1961. 237 p. (MIRA 15:10)
(NERVOUS SYSTEM--DISEASES)

BĒRZINŠ, J.

The significance of cobalt in feeding of pigs. Latvijas PSR Zinātņu Akad.
Vēstis '51, 415-20. (MLRA 5:10)
(CA 47 no.22:12550 '53)

1. BERZINS, J.
2. USSR (600)
- 4 . Dairy Cattle
7. Raising calves with little consumption of whole milk. Latv.PSR Zin.Akad.Vestis, no. 7, 1951.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

BERZIN', IA. M.

Znachenie solei kobal'ta i medi v
kormlenii sel'skokhoziaistvennykh zivotnykh
(Importance of cobalt and copper salts in the feeding of farm animals).
Riga, AN Latviiskoi SSR, 1952. 123 pages.

SO: Monthly List of Russian Accessions, Vol. 6, No. 1, April 1953

BĒRZIŅŠ, J.; BRENCIS, K.

The importance of cobalt, copper, zinc, manganese, and iodide salts
and their mixtures in the feeding of hogs and young pigs. Latvijas
PSR Zinātņu Akad. Vēstis '52, No.4, 65-72.
(CA 47 no.17:8854 '53)

BERZINS, J.

Significance of cobalt and copper in feeding of farm animals. J. Berzins (Inst. Zootech. and Zoohyg., Acad. Sci. Latv. S.S.R.), *Mikroelementy i Zhizni i Zdravotnykh, Akad. Nauk S.S.S.R., Trudy Kent. Mikrodement.* 1950, 473-92 (1952); cf. *C.A.* 45, 5839f. — Expts. with farm animals (cows, calves, sheep) showed the beneficial effects of mineral supplement in the form of CoCl_2 : improved appetite, better growth of the young, restoration of lactation, better resistance to infections. In regions low in Cu, a combined Cu-Co use is recommended. For cattle a dose of 1 g. daily per 100 kg. in the form of CoCl_2 leads to repression of bone marrow activity. While the effects of Co are beneficial for the animals, addn. of Cu produces even better results. Co deficiency symptoms appear when the feeds are grown in soils with less than 1.5 mg. available Co/kg.

G. M. Ko-olapoff

Anti-arthritis action of some derivatives of 2-phenyl-4-(hydroxyacetyl)quinoline. Bernhard Zorn and Auguste Mankel (Friedrich-Schiller-Univ., Jena, Ger.), *Nunoya-Schmidbergs Arch. exper. Pathol. Pharmacol.* 223, 362-8 (1974). The basic deriv. was 2,4-Ph(COCH_2OAc) $\text{C}_6\text{H}_4\text{N}$ (I). In addn. the following compds. were prepd.: 6-MeO-I (II), 8-MeO-I (III), 7-MeO-I (IV), and 2,4,6-(*p*- $\text{AcOCH}_2\text{COCH}_3$)(*m*- AcOCH_2CO)(*MeO*) $\text{C}_6\text{H}_3\text{N}$ (V). Arthritis was induced in rats with HCHO injections. II had the strongest antiarthritis effect whereas III and IV required higher doses. I also required high doses but then led to complete healing of the inflamed joints. V was valueless. The Na salt of I, Inchofen was inferior in effect and did not lead to healing of the lesions.

A. E. Meyer

BERZINS

Role of cobalt, copper, manganese, and zinc salts in chicken feeding. J. Berzigl and J. Rozenbachs. *Latvian P.S.S.R. Zinatnu Akad. Vests 1963*, No. 9 (Whole No. 74), 39-46 (in Russian); cf. *C.A.* 48, 10151g. — A gain of 20-25% in the rate of wt. increase of chickens was obtained by addn. to the feed, in mg. %: CoCl_2 0.25, MnSO_4 25, CuSO_4 20, ZnCl_2 1.2. The Co salt alone in amt. of 0.25 mg. % was also quite efficient. It is suggested that the addn. of the Co salt be interrupted for 20-30 days after each 30-45-day period of usage in the feed. Co and the other mineral elements improved the biosynthesis of A and C vitamins as well as the uptn. of mineral substances in the bone tissue. Co increased the hemoglobin and the erythrocyte count.

Andrew Draynieks

①

BERZINS, J.

(3)

Influence of cobalt, manganese, copper, and zinc salts on the hen-egg yield and their properties in incubation. J. Berzins and J. Rozenbachs. *Latvijas PSR Zinatnu Akad. Vēstis* 1954, No. 4 (Whole No. 81), 65-7 (in Russian).--Microelements added to hen feed in the following amounts (mg. %): CoCl₂ 0.25; MnSO₄ 25; CuSO₄ 20; ZnCl₂ 1.2 increased the no. of eggs per year by 13 (increase by 7.8%). Eggs were on the av. 0.0 g. heavier, and the no. of chickens hatched 0.7% higher than in the control group. The av. wt. of the chicken was also higher. A. D.

Berezina, J.

USSR .

Increasing the productivity of sheep (by microelements).
I. Berezina. *Letsjy PSR Živótny Akad. Věst 1974, No. 25, 31-6 (in Russian)*.—Addn. of 0.3 mg. CoCl_2 , 0.5 mg. MnSO_4 , and 0.5 mg. ZnCl_2 per day per kg. wt. to sheep feed, for 10 days before insemination, increased fertility by 8.7%, and increased the wt. of lambs by 0.25 kg. Similar dosages of microelements during lactation period increased the wt. of lambs by 1.9-4.3 kg. The wt. of mothers and their wool yield were not influenced.
Andrew D. Zwick

BERZINS, V.

USSR

The application of vitamins to animal husbandry. Providing cattle with vitamin A. I. M. Zakharchenko. *Vitaminage Research: Issledovanie, Akad. Nauk S.S.S.R., Inst. Biokhim. im. A. N. Bakha, Sbornik 2, 7-34 (1954)*.—The carotene (I) content of summer green fodder is high in the early stages of growth. In the period of maturity it is reduced to 1/4-1/2. Summer green fodder should, therefore, be harvested and dried before such I reduction sets in. If permitted to dry in the sun as it is mowed down, summer green fodder suffers an intense breakdown of the I, which can be prevented to a considerable degree by raking the grass into rolls or shocks. When stacked in the open for 9 months (August-April), green fodder loses 86.1-88.2% and 87.4-89.7% of the I, depending upon the nature of the green fodder. Even with such great loss of I, enough of the vitamin remains to prevent harmful consequences in cattle. When preserved as silage, corn lost 48.2%, sorghum 26%, and African millet 40.6% of their vitamin. This constitutes less of a loss than by the best method of drying. Red carrots and squash are particularly rich in vitamin A even though they lose 42.2-54.2% of it during winter storage. The most suitable methods for summer and winter feeding of milch and dry cows and pedigree and nonpedigree calves are discussed. Raising calves on minimum of whole milk by supplementing the basic ration with vitamins A and D. J. Berzins (Inst. Zootech. and Zoohyg., Acad. Sci. Latv. SSR), *Ibid.*, 35-39.—High grade pedigree calves were raised by feeding them skimmed-milk rations supplemented by a min. of whole milk and green fodder rich in vitamins A and D. The addition of vitamin A concentrate to the ration of high milk producers. V. E. Kondyrev (All-Union Sci. Research

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in Agr. Animal Feeding). *Ibid.* 69-7.—Increase of the
 content of the animal ration to 600-800 mg. assures a vita-
 min A milk activity equal to 1.5-2.0 I.U. per ml. of milk,
 or a level high enough for high-producing milch cows.
 The use of vitamin concentrates and of cobalt salts in
 cattle fattening. A. M. Popov (Inst. Zootech. and Zoohyg.,
 Acad. Sci. Univ. S.S.R.). *Ibid.* 68-70.—Three groups of 9
 cows each were fed the same basic ration. Group 1 re-
 ceived in addn. 20,000 I.U. of vitamin A, 1000 I.U. of vita-
 min D, and 50 mg. of CoCl₂/cow/day. Group 2 received
 vitamins A and D as above, but no CoCl₂. Group 3,
 the control group, was given the basic ration only. Feed-
 ing expt. extended over 78 days. The av. daily wt.
 increase of group 1 was 32.4%, and of group 2, 18.6%
 above that of group 3. D-hypovitaminosis in calves.
 A. N. Melyukov (Agr. Inst., Ivanovo). *Ibid.* 71-5.—Four
 groups of 12-13 pregnant cows each were fed a daily pre-
 scribed basic ration. Group I received in addn. 33,000
 I.U. of vitamin D per head per day; group II received in
 addn. 30 g. of chalk per head per day; group III received
 both the vitamins and the chalk; animals of group IV, as
 the control group, received the basic exptl. ration only.
 Blood of all animals was examd. for Ca and inorg. P.
 Expts. extended over 6 months. The Ca and inorg. P.
 level of the blood of the cows of group III throughout the
 exptl. period was higher than in the cows of the control
 group. Clinically the cows of the control group presented
 a picture of ill health, but not those of groups I and III.
 Calves born to cows of the control group weighed on the av.
 4.7 kg. less than those of the other groups and their pro-
 gressive gain in wt. was of a lesser magnitude. It was
 concluded (1) that in gestating cows and young calves the
 serum Ca and inorg. P can be used as an indicator of suf-
 ficiency or insufficiency of the dietary vitamin D; (2) that
 the rations of gestating barren cows must be well bal-
 anced as regards the mineral and vitamin content; and
 (3) that during the winter period it may be necessary to

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reinforce the daily rations with Ca and vitamin D to the extent of 25,000-30,000 I.U. daily. Acitunimula of farm animals, their characteristic manifestations and methods of prevention. A. S. Solov (Moscow Vet. Acad.), *Ibid.* 79-83. The vitamin values of colostrum and milk of cattle of the Latvian Brown breed, depending upon the conditions of feeding and maintenance. S. A. Kozlovskaya (Acad. Agr. Sci. Latv. S.S.R.), *Ibid.* 83-85. Cows which receive fodder of high vitamin content produce a vitamin-rich colostrum. The vitamin is highest in the colostrum of the first milking, becoming gradually reduced. In any one milking the vitamin of the colostrum is highest at the end of the milking, at which point it is most suitable for calf feeding. Injecting gestating cows with vitamin concentrates leads to the production of a colostrum very rich in vitamins. The addition of I to the diet of the cows raises the vitamin A content of the colostrum to a slight degree only. The injection of lecithin concentrates increases the vitamin E content of the colostrum. Red carrot silage considerably increases the vitamins A and E and I content of the colostrum. By reinforcing the ration of milch cows with vitamin concentrates or by feeding them rations rich in vitamins, the vitamin A content of the milk can be increased 180-250%, and that of vitamin E 20-50%. Analyses of cow milk at different stages of milking indicated that with the butterfat increase the levels of vitamins A and E and of I also increase, though not in a strictly parallel manner. The content of vitamins A, B, and E in milk. R. Davison

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and L. E. Gul'ko (K. A. Tikhonov Agr. Acad.). *Ibid.*, 103-12.--The av. vitamin A content of animal milk is 700-900 I.U. per l. It varies through the year, being highest during the June-October period. The av. vitamin B₁ content of animal milk is 405-143 γ /l. It is not subject to great variations. The av. riboflavin content of animal milk is 951-1557 γ /l., being higher in the winter months. The vitamin content of colostrum and of milk of farm animals. A. Valdmans and E. Taucipš (Inst. Zootech. and Zoohyg., Acad. Sci. Latv. S.S.R.). *Ibid.*, 113-35.-- Determin. of vitamins A, E, C, and I were made in the milk and colostrum of cows, mares, goats, sheep, and hogs. Vitamin A was detd. with the SbCl₃ reaction. Final calcs. were made according to: vitamin A (in mg. %) = $1.4(3E + F)Y/a$, where a = g. wt. of milk or colostrum; Y = CHCl₃ ext. in ml.; E = extinction factor. I (in mg. %) = $0.8E.V/a$, where E, Y, and a are as above. Vitamin E (in mg. %) = $4.8 E.V/a$, where V = alc. ext. in ml. Vitamin C (in mg. %) = $aKC(0.088/100)/b$, where a = ml. of 2,6-dichloroindophenol soln.; k = correction factor; C = diln. factor; 0.088 = mg. of ascorbic acid decolorizing 1 ml. 0.001N 2,6-dichloroindophenol; and b representing the amt. of dild. milk used in the titration. The milk and colostrum of goats, sheep, and hogs are higher in both butter fat and fat-sol. vitamins A and E. Mare milk, the butter-fat content of which is only 1/4-1/2 that of cow milk, is not poorer in vitamins A and E. The vitamin content of the milk and colostrum of cows, mares, sheep, goats, and hogs is conditioned by the intensity of their synthesis in the animal organism. It is independent of the content of vitamin C of the feed and varies with the animal

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Hog milk is the richest in vitamin C. Its content in mare milk in the mid-period of lactation is considerably poorer at the onset and end of the period. Colostrum and milk of sheep are approx. twice as rich in vitamin C as are those of the goat or cow. During the pasturing period the content of vitamins C and A of the milk of all animals is lowered. KI, iodized casein, and CoCl₂ lower the vitamin C content of milk 50-60%, but raise somewhat the content of vitamins A and B in milk. The presence of vitamins A and C and the almost complete absence of I in the colostrum of mares, sheep, hogs, and goats and in the milk of mares and hogs indicates that these vitamins are necessary to the newborn up to the time their organisms begin to synthesize their own vitamins. The intensive feeding of vitamin A to mothers favorably affects their sucklings. This is not true of I. The choline content of colostrum and of milk. E. Cielens (Inst. Zootech. and Zoolhyg., Acad. Sci. Latv. S.S.R.), *Ibid.* 193-4.—The choline content of the colostrum of farm animals is considerably higher than that of all other vitamins combined. It varies within well defined limits and begins to decrease on the second day following parturition. Pasturing increases and barn confinement decreases the choline content of milk and colostrum of farm animals. Milk fermentation, whether natural, or

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pure-culture-induced following pasteurization of the milk, markedly reduces the choline content of the milk. The vitamin content of organs of farm animals. A. Valdmans and E. Tuncifly (Inst. Zootech. and Zoohyg., Acad. Sci. Latv. S.S.R.). *Ibid.* 130-48. Vitamin biosynthesis in the digestive tract of farm animals. A. Valdmans (Inst. Zootech. and Zoohyg., Acad. Sci. Latv. S.S.R.). *Ibid.* 143-54. The use of vitamins A, D, B₁, B₂, C, and PP in hog feeding. M. F. Tomme and L. G. Tomme (All-Union Sci. Research Inst. Meat Ind.). *Ibid.* 155-73. The effect of vitamins A and D on the fertility of farm animals. E. F. Polikarpova (A. N. Severtsov Inst. Animal Morphol., Acad. Sci. U.S.S.R.). *Ibid.* 174-80.—Vitamins A and D affect beneficially the fertility of astrakhan fur-producing sheep and of hogs. The effective doses for the sheep are 3,000 I.U. of vitamin A and 500-1000 I.U. of vitamin D and for rams 6000 I.U. of vitamin A and 1000 I.U. of vitamin D daily. In hogs effective doses are 15,000 I.U. of vitamin A and 7000 I.U. of vitamin D for females, and 20,000 I.U. of vitamin A and 15,000 I.U. of vitamin D per head per day in males. The effect of vitamins A and D on the fertility of hogs. F. P. Bogdanov (Moscow Vet. Acad.). *Ibid.* 187-94.—Results are essentially the same as given immediately above. The effectiveness of vitamins A and D concentrates in the feeding of young hogs. V. N. Kitayev and A. D. Artemov (All-Union Sci. Research Vitamin Inst.). *Ibid.* 195-9.—The addn. of vitamins A and D resulted in a 1.1 kg. per capita wt. increase, which was considered statistically significant and economically profitable. The value of vitamin concentrates in raising suckling pigs. A. Valdmans (Inst. Zootech. and Zoohyg., Acad. Sci. Latv. S.S.R.). *Ibid.* 200-5.—See C.A. 47, 12649e. The use of protein-vitamin paste in raising young pigs. F. A. Grachev (Animal

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Husbandry Sta., Voronezh, Dist.). *Ibid.* 206-12.—As a supplement to the usual basic ration of young pigs during the period of lactation the paste effects a more rapid growth, higher wt. gain, and better general health of the animals. Coniferous greens as a vitamin food for hogs and sheep. K. Brechis (Inst. Zootech. and Zoolhyg., Acad. Sci. Latv. S.S.R.). *Ibid.* 213-22; cf. *C.A.* 43, 333.—The green parts of the fir and pine trees and of the juniper shrub are rich in ascorbic acid, I and other vitamins. A daily dose of 0.2 kg. of the greens per 100 kg. of body wt. of hogs stimulates their appetite resulting in a 20% increase in food consumption and to a considerable increase in body wt. The best dosage for sheep is 0.25 kg. per head per day. In hogs there is a notable accumulation of ascorbic acid in the internal organs and of vitamin A in addn. in the liver. Such green supplement must be fresh and appropriately comminuted. Overlarge doses are apt to be harmful and in sows may lead to vaginal discharges due to the excess stimulation of the sex organs by the ascorbic acid and the tocopherol. Hereditary changes in the productivity of hens as a result of feeding conditions. G. Ya. Kirepanova (Inst. Genetics, Acad. Sci. U.S.S.R.). *Ibid.* 222-44. Vitamin A metabolism in farm fowls. P. I. Masheva (Res. Research Inst. Aviculture). *Ibid.* 247-51.—The vitamin A content of egg yolk, liver and blood present a reliable diagnostic index of the vitamin A sufficiency of the farm's organism, of Biol. wholesomeness of the egg, and of vitamin quality of the food rations. The following are recommended as indices of wholesome and productive eggs: for hens 10-13, for ducks 12-16 and for geese 13-17 % of vitamin A per g. of egg yolk. The effect of vitamin A of different sources on the productivity of geese. M. Ya.

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